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SEQUENCE LISTING

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<120> J CHAIN POLYPEPTIDE TARGETING MOLECULE LINKED TO AN IMAGING AGENT

<130> EPI3003C

<140> 10/062,467

<141> 2002-02-05

<150> 08/782,480

<151> 1997-01-10

<150> 09/005,167

<151> 1998-01-09

<160> 93

<170> PatentIn Ver. 2.1

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<212> PRT

<213> Homo sapiens

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Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu
35 40 45

Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Pro Val Tyr His
50 55 60

Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp
65 70 75 80

Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser
85 90 95

Ala Thr Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala
100 105 110

Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala
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Leu Thr Pro Asp Ala Cys Tyr Pro Asp
130 135

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 <213> Mus sp.

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 Ile Val Glu Arg Asn Val Arg Ile Ile Val Pro Leu Asn Ser Arg Glu
 35 40 45
 Asn Ile Ser Asp Pro Thr Ser Pro Met Arg Thr Lys Pro Val Tyr His
 50 55 60
 Leu Ser Asp Leu Cys Lys Lys Cys Asp Thr Thr Glu Val Glu Leu Glu
 65 70 75 80
 Asp Gln Val Val Thr Ala Ser Gln Ser Asn Ile Cys Asp Ser Asp Ala
 85 90 95
 Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Asn Arg Val
 100 105 110
 Lys Leu Ser Tyr Arg Gly Gln Thr Lys Met Val Glu Thr Ala Leu Thr
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 Pro Asp Ser Cys Tyr Pro Asp
 130 135

<210> 3
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 <213> Oryctolagus cuniculus

<400> 3
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 Val Thr Ser Arg Ile Ile Pro Ser Thr Glu Asp Pro Asn Glu Asp Ile
 20 25 30
 Val Glu Arg Asn Ile Arg Ile Val Val Pro Leu Asn Asn Arg Glu Asn
 35 40 45
 Ile Ser Asp Pro Thr Ser Pro Leu Arg Arg Asn Pro Val Tyr His Leu
 50 55 60
 Ser Asp Val Cys Lys Lys Cys Asp Pro Val Glu Val Glu Leu Glu Asp
 65 70 75 80
 Gln Val Val Thr Ala Thr Gln Ser Asn Ile Cys Asn Glu Asp Asp Gly
 85 90 95

Val Pro Glu Thr Cys Tyr Met Tyr Asp Arg Asn Lys Cys Tyr Thr Thr
 100 105 110

Met Val Pro Leu Arg Tyr His Gly Glu Thr Lys Met Val Gln Ala Ala
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Leu Thr Pro Asp Ser Cys Tyr Pro Asp
 130 135

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 20 25 30

Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Thr Arg Glu Asn
 35 40 45

Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Glu Pro Lys Tyr Asn Leu
 50 55 60

Ala Asn Leu Cys Lys Lys Cys Asp Pro Thr Glu Ile Glu Leu Asp Asn
 65 70 75 80

Gln Val Phe Thr Ala Ser Gln Ser Asn Ile Cys Pro Asp Asp Asp Tyr
 85 90 95

Ser Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Thr Leu
 100 105 110

Val Pro Ile Thr His Arg Gly Val Thr Arg Met Val Lys Ala Thr Leu
 115 120 125

Thr Pro Asp Ser Cys Tyr Pro Asp
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 <222> (47)
 <223> Variable amino acid

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 Glu Arg Asn Ile Gln Ile Thr Ile Pro Thr Ser Ser Arg Met Xaa Ile
 35 40 45
 Ser Asp Pro Tyr Ser Pro Leu Arg Thr Gln Pro Val Tyr Asn Leu Trp
 50 55 60
 Asp Ile Cys Gln Lys Cys Asp Pro Val Gln Leu Glu Ile Gly Gly Ile
 65 70 75 80
 Pro Val Leu Ala Ser Gln Pro Xaa Xaa Ser Xaa Pro Asp Asp Glu Cys
 85 90 95
 Tyr Thr Thr Glu Val Asn Phe Lys Lys Lys Val Pro Leu Thr Pro Asp
 100 105 110
 Ser Cys Tyr Glu Tyr Ser Glu
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<210> 6
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 <212> PRT
 <213> Lumbricus sp.

<400> 6
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 20 25 30
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 35 40 45
 Asn Gln Pro Val Tyr His Leu Ser Pro Ser Cys Lys Lys Cys Asp Pro
 50 55 60
 Tyr Glu Asp Gly Val Val Thr Ala Thr Glu Thr Asn Ile Cys Tyr Pro
 65 70 75 80
 Asp Gln Gly Val Pro Gln Ser Cys Arg Asp Tyr Cys Pro Glu Leu Asp
 85 90 95
 Arg Asn Lys Cys Tyr Thr Val Leu Val Pro Pro Gly Tyr Thr Gly Glu
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Thr Lys Met Val Gln Asn Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
 115 120 125

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 Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
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 gct cgt att act tct aga atc atc cgt agc tca gag gac cca aat gaa 96
 Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
 15 20 25 30
 gat ata gtc gaa cgt aac atc cgt atc atc gtc cca ctg aat aac cgg 144
 Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg
 35 40 45
 gag aat atc tca gat cct aca agt ccg ttg cgc aca cgc ttc gta tac 192
 Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr
 50 55 60
 cac ctg tca gat ctg tgt aag aag tgt gat cca aca gag gta gag ctg 240
 His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu
 65 70 75
 gac aat cag ata gtc act gcg act caa agc aac att tgc gat gag gac 288
 Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp
 80 85 90
 agc gct aca gaa acc tgc agc acc tac gat agg aac aaa tgc tac acg 336
 Ser Ala Thr Glu Thr Cys Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr
 95 100 105 110
 gcc gtg gtt ccg ctc gtg tat ggt gga gag aca aaa atg gtg gaa act 384
 Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr
 115 120 125
 gcc ctt acg ccc gat gca tgc tat ccg gac tgaattc 421
 Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
 130 135

<210> 8
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 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (1)..(213)

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 Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
 1 5 10 15
 tca gag gac cca aat gaa gat ata gtc gaa cgt aac atc cgt atc atc 96
 Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
 20 25 30
 gtc cca ctg aat aac cgg gag aat atc tca gat cct aca agt ccg ttg 144
 Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
 35 40 45
 cgc aca cgc ttc gta tac cac ctg tca gat ctg tgt aag aag gat gag 192
 Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu
 50 55 60
 gac agc gct aca gaa acc tgc tg 215
 Asp Ser Ala Thr Glu Thr Cys
 65 70

<210> 9
 <211> 140
 <212> DNA
 <213> Homo sapiens

<400> 9
 ctagaatcat ccgtagctca gaggacccaa atgaagatat agtcgaacgt aacatccgta 60
 tcatcgctccc actgaataac cgggagaata tctcagatcc tacaagtccg ttgcgcacac 120
 gcttcgtata ccacctgtca 140

<210> 10
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 <212> DNA
 <213> Homo sapiens

<400> 10
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<210> 11
 <211> 44

<212> DNA
 <213> Homo sapiens

<220>
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 <222> (1)..(42)

<400> 11
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 Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
 1 5 10

<210> 12
 <211> 109
 <212> DNA
 <213> Homo sapiens

<400> 12
 gcacctacga taggaacaaa tgctacacgg ccgtgggttcc gctcgtgtat ggtggagaga 60
 caaaaatggt ggaaactgcc cttacgcccg atgcatgcta ccctgactg 109

<210> 13
 <211> 286
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (1)..(279)

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 1 5 10 15
 tca gag gac cca aat gaa gat ata gtc gaa cgt aac atc cgt atc atc 96
 Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
 20 25 30
 gtc cca ctg aat aac cgg gag aat atc tca gat cct aca agt ccg ttg 144
 Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
 35 40 45
 cgc aca cgc ttc gta tac cac ctg tca gat ctg tgt aag aag tgt gat 192
 Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
 50 55 60
 cca aca gag gta gag ctg gac aat cag ata gtc act gcg act caa agc 240
 Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser
 65 70 75 80
 aac att tgc gat gag gac agc gct aca gaa acc tgc tac tgaattc 286
 Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr
 85 90

<210> 14
 <211> 105
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(105)

<400> 14
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 Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln
 1 5 10 15
 ata gtc act gcg act caa agc aac att tgc gat gag gac agc gct aca 96
 Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr
 20 25 30
 gaa acc tgc 105
 Glu Thr Cys
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<210> 15
 <211> 61
 <212> DNA
 <213> Homo sapiens

<400> 15
 gatcaggaag atgaacgtat tggtctgggt gacaacaagt gcaagtgtgc tcgtattact 60
 t 61

<210> 16
 <211> 198
 <212> DNA
 <213> Homo sapiens

<400> 16
 gcgatgacga cgataaggcc caaacggaga cctgtactgt tgcgcctcgt gaacggcaaa 60
 actgcggatt cccgggagta acaccctctc agtgcgctaa taaaggctgc tgttttgatg 120
 acacggtacg gggcgttccg tggtgcttct accccaatac aattgacgtt ccgcctgaag 180
 aagagtgcga gttttaag 198

<210> 17
 <211> 138
 <212> PRT
 <213> Homo sapiens

<400> 17
 Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
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 Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
 15 20 25 30


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<211> 71
<212> PRT
<213> Homo sapiens
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 1                               5 10 15
Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
      20 25 30
Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
      35 40 45
Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu
      50 55 60
Asp Ser Ala Thr Glu Thr Cys
65 70

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<210> 19
<211> 49
<212> PRT
<213> Homo sapiens
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Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp Ile Val Glu
  1             5             10             15
Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu Asn Ile Ser
          20             25             30

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<212> PRT
<213> Homo sapiens
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<211> 14
<212> PRT
<213> Homo sapiens
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<210> 22
<211> 36
<212> PRT
<213> Homo sapiens
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Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala Leu Thr Pro Asp Ala
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<210> 23
<211> 93
<212> PRT
<213> Homo sapiens
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Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
20 25 30

Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
35 40 45

Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
50 55 60

Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser
65 70 75 80

Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr
85 90

<210> 24
<211> 35
<212> PRT
<213> Homo sapiens

<400> 24
Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln
1 5 10 15

Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr
20 25 30

Glu Thr Cys
35

<210> 25
<211> 22
<212> PRT
<213> Homo sapiens

<400> 25
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
1 5 10 15

Ala Arg Ile Thr Ser Arg
20

<210> 26
<211> 66
<212> PRT
<213> Homo sapiens

<400> 26
Cys Ser Asp Asp Asp Lys Ala Gln Thr Glu Thr Cys Thr Val Ala
1 5 10 15

Pro Arg Glu Arg Gln Asn Cys Gly Phe Pro Gly Val Thr Pro Ser Gln
20 25 30

Cys Ala Asn Lys Gly Cys Cys Phe Asp Asp Thr Val Arg Gly Val Pro
35 40 45

Trp Cys Phe Tyr Pro Asn Thr Ile Asp Val Pro Pro Glu Glu Glu Cys
50 55 60

Glu Phe
65

<210> 27
<211> 421
<212> DNA
<213> Homo sapiens

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caccatacac gagcggaacc acggccgtgt agcatttggt cctatcgtag gtgctgcagg 120
tttctgtagc gctgtcctca tcgcaaagtgt tgctttgagt cgcagtgact atctgattgt 180
ccagctctac ctctgttgga tcacacttct tacacagatc tgacagggtgg tatacgaagc 240
gtgtgcgcaa cggacttgta ggatctgaga tattctcccg gttattcagt gggacgatga 300
tacggatgtt acgttcgact atatcttcat ttgggtcctc tgagctacgg atgattctag 360
aagtaatacg agcacacttg cacttgttgt caaccagaac aatacgttca tcttctgat 420
c 421
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<210> 28
<211> 219
<212> DNA
<213> Homo sapiens

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tacgaagcgt gtgcgcaacg gacttgtagg atctgagata ttctcccggg tattcagtgg 120
gacgatgata cggatgttac gttcgactat atcttcattt gggtcctctg agctacggat 180
gattctagaa gtaatacgag cacacttgca cttctgata 219
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<210> 29
<211> 140
<212> DNA
<213> Homo sapiens

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cccggttatt cagtgggacg atgatacgga tgttacgttc gactatatct tcatttgggt 120
cctctgagct acggatgatt 140
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<210> 30
<211> 31
<212> DNA
<213> Homo sapiens

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<400> 30
ctagaagtaa tacgagcaca cttgcacttc t 31
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<210> 31
<211> 44
<212> DNA
<213> Homo sapiens

<400> 31
 aattcagcag gtttctgtag cggactcttc atccttctta caca 44

<210> 32
 <211> 117
 <212> DNA
 <213> Homo sapiens

<400> 32
 aattcagtcg gggtagcatg catcgggcgt aagggcagtt tccaccattt ttgtctctcc 60
 accatacacg agcgggaacca cggccgtgta gcatttggtc ctatcgtagg tgctgca 117

<210> 33
 <211> 282
 <212> DNA
 <213> Homo sapiens

<400> 33
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 tatctgattg tccagctcta cctctgttgg atcacacttc ttacacagat ctgacagggtg 120
 gtatacgaag cgtgtgcgca acggacttgt aggatctgag atattctccc gggtattcag 180
 tgggacgatg atacggatgt tacgttcgac tatatcttca tttgggtcct ctgagctacg 240
 gatgattcta gaagtaatac gagcacactt gcacttctga tc 282

<210> 34
 <211> 105
 <212> DNA
 <213> Homo sapiens

<400> 34
 gcaggtttct gtagcgctgt cctcatcgca aatgttgctt tgagtcgcag tgactatctg 60
 attgtccagc tctacctctg ttggatcaca cttcttacac agatc 105

<210> 35
 <211> 61
 <212> DNA
 <213> Homo sapiens

<400> 35
 ctagaagtaa tacgagcaca cttgcacttg ttgtcaacca gaacaatacg ttcattcttc 60
 t 61

<210> 36
 <211> 205
 <212> DNA
 <213> Homo sapiens

<400> 36
 aattcttaaa actcgcactc ttcttcaggc ggaacgtcaa ttgtattggg gtagaagcac 60
 cacggaagcc ccgtaccgtg tcatcaaaac agcagccttt attagcgcac tgagagggtg 120
 ttactcccgg gaatccgcag ttttgccgtt cacgaggcgc aacagtacag gtctccgttt 180
 gggccttatc gtcgtcatcg ctgca 205

<210> 37
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<212> PRT
<213> Homo sapiens

<400> 37
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys
1 5 10

<210> 38
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Illustrative
peptide

<400> 38
Glu Asn Leu Tyr Phe Gln Ser
1 5

<210> 39
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker peptide

<400> 39
Lys Ala His Lys Val Asp Met Val Gln Tyr Thr
1 5 10

<210> 40
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker peptide

<400> 40
Val Gln Tyr Thr
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<210> 41
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker peptide

<400> 41
 Glu Lys Ala Val Ala Asp
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<210> 42
 <211> 131
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(78)

<400> 42
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 Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser
 1 5 10 15

 tac atc tat gcg gat ccg agc tcg agt gct ctagatctgc agctgggtacc 98
 Tyr Ile Tyr Ala Asp Pro Ser Ser Ser Ala
 20 25

 atggaattcg aagcttggag tcgactctgc tga 131

<210> 43
 <211> 26
 <212> PRT
 <213> Homo sapiens

<400> 43
 Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser
 1 5 10 15

 Tyr Ile Tyr Ala Asp Pro Ser Ser Ser Ala
 20 25

<210> 44
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Intracellular
 targeting signal

<400> 44
 Lys Asp Glu Leu
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<210> 45
 <211> 16
 <212> PRT
 <213> Homo sapiens

<400> 45

Ala Ile Gln Asp Pro Arg Leu Phe Ala Glu Glu Lys Ala Val Ala Asp
 1 5 10 15

<210> 46

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 46

gatacgaag atgaacgtat tggctcgggt gacaacaagt gcaagtgtgc tcgtattact 60
 t 61

<210> 47

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 47

ctagaagtaa tacgagcaca cttgcacttg ttgtcaacca gaacaatagc ttcattcttc 60
 t 61

<210> 48

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 48

gatacgaag gcaagtgtgc tcgtattact t 31

<210> 49

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 49

ctagaagtaa tacgagcaca cttgcacttc t 31

<210> 50
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 50
 gatcaggaag atgaacgtat tggtctgggt gacaacaagt gcaagtcgc tcgtattact 60
 t 61

<210> 51
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 51
 ctagaagtaa tacgagcgga cttgcacttg ttgtcaacca gaacaatag ttcattctcc 60
 t 61

<210> 52
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 52
 gatcaggaag atgaacgtat tggtctgggt gacaacaagt gcaaggtgc tcgtattact 60
 t 61

<210> 53
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 53
 ctagaagtaa tacgagcaac cttgcacttg ttgtcaacca gaacaatag ttcattctcc 60
 t 61

<210> 54
 <211> 47
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 54
 ctagaatcat ccgtagctca gaggacccaa atgaagatat agtcgaa 47

<210> 55
 <211> 58
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
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<400> 55
 gatacggatg ttacgttcga ctatatcttc atttgggtcc tctgagctac ggatgatt 58

<210> 56
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 56
 cgtaacatcc gtatcatcgt cccactgaat aaccggggaga atatctcag 49

<210> 57
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 57
 cgtaacatcc gtatcatcgt cccactgaat aaccggggagc acatctcag 49

<210> 58
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 58

acggacttgt aggatctgag atattctccc ggttattcag tgggacgat

49

<210> 59

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 59

acggacttgt aggatctgag atgtgctccc ggttattcag tgggacgat

49

<210> 60

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 60

atcctacaag tccgttgccg acacgcttcg tataccacct gtca

44

<210> 61

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 61

gatctgacag gtggtatacg aagcgtgtgc gca

33

<210> 62

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 62

gatctgtgta agaagtgta tccaacagag gtagagctgg acaatcagat agtcactgca 60

<210> 63
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 63
 gatctgtgta agaaggatga ggacagcgct acagaaacct gctg 44

<210> 64
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 64
 aattcagcag gtttctgtag cgctgtcctc atccttctta caca 44

<210> 65
 <211> 62
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 65
 gatctgtgta agaaggatga ggacagcgct acagaaacct gctacgagaa ggatgagctg 60
 tg 62

<210> 66
 <211> 62
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 66
 aattcacagc tcattcctcg cgctgcaggt ttctgtagcg ctgtcctcat ccttcttaca 60
 ca 62

<210> 67
 <211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 67

gatctgtgta agaagtctga tatcgatgaa gattccgcta cagaaacctg cagcacatg 59

<210> 68

<211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 68

aattcatgtg ctgcagggtt ctgtagcgga atcttcatcg atatcagact ttttacaca 59

<210> 69

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 69

gatctgtcta agaagtctga tatcgatgaa gattacagat tttcagact atagctactt 60
ctaa 64

<210> 70

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 70

aatcttcatc gatatcagac ttcttagaca 30

<210> 71

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

oligonucleotide

<400> 71
gatctgggta agaagtctga tatcgatgaa gattaccaat tcttcagact atagctactt 60
ctaa 64

<210> 72
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 72
aatcttcacg gatatcagac ttcttaacca 30

<210> 73
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 73
attgtccagc tctacctctg ttggatcaca cttcttacac a 41

<210> 74
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 74
actcaaagca acatttgcca tgaggacagc gctacagaaa cctgca 46

<210> 75
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 75
ggtttctgta gcgctctgct catcgcaaatt gttgctttga gtcgcagtga ctatctg 57

<210> 76
 <211> 59
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 76
 gcacctacga taggaacaaa tgctacacgg ccgtggttcc gctcgtgtat ggtggagag 59

<210> 77
 <211> 48
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 77
 gagcggaacc acggccgtgt agcatttggt cctatcgtag gtgctgca 48

<210> 78
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 78
 acaaaaatgg tggaaactgc ccttacgccc gatgcatgct atccggactg 50

<210> 79
 <211> 69
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 79
 aattcagtcc ggatagcatg catcgggcgt aagggcagtt tccaccattt ttgtctctcc 60
 accatacac 69

<210> 80
 <211> 62
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 80

acaaaaatgg tggaaactgc ccttacgccc gatgcatgct atccggacaa ggatgaattg 60
tg 62

<210> 81

<211> 81

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 81

aattcacaat tcatccttgt ccgtagtagca tgcacgggc gtaagggcag tttccacat 60
tttgtctct ccaccataca c 81

<210> 82

<211> 88

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 82

gatcaggtcg ctgccatcca agacccgagg ctgttcgccg aagagaaggc cgtcgctgac 60
tccaagtgca agtgtgctcg tattactt 88

<210> 83

<211> 88

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 83

ctagaagtaa tacgagcaca cttgcacttg gagtcagcga cggccttctc ttcggcgaac 60
agcctcgggt cttggatggc agcgacct 88

<210> 84

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
targeting peptide

<400> 84

Cys Ala Ala Pro Lys Lys Lys Arg Lys Val
1 5 10

<210> 85

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
targeting peptide

<400> 85

Cys Ala Ala Lys Arg Pro Ala Ala Ile Lys Lys Ala Gly Gln Ala Lys
1 5 10 15

Lys Lys Lys

<210> 86

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Intracellular
targeting signal

<400> 86

His Asp Glu Leu
1

<210> 87

<211> 77

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 87

gcgatgacga cgataaggcc caaacggaga cctgtactgt tgcgcctcgt gaacggcaaa 60
actgcggtatt cccggga 77

<210> 88

<211> 66

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 88

gttttgccgt tcacgaggcg caacagtaca ggtctccgtt tgggccttat cgtcgtcatc 60
gctgca 66

<210> 89

<211> 72

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 89

gtaacaccct ctcaagtgcgc taataaaggc tgctgttttg atgacacggg acgggggcgtt 60
ccgtggtgct tc 72

<210> 90

<211> 72

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 90

gccccgtacc gtgtcatcaa aacagcagcc tttattagcg cactgagagg gtgttactcc 60
cggaatccg ca 72

<210> 91

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 91

tacccaata caattgacgt tccgcctgaa gaagagtgcg agttttaag 49

<210> 92

<211> 68

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

oligonucleotide

<400> 92

aattctttaa actcgactc ttcttcaggc ggcaagtcaa ttgtattggg gtagaagcac 60
 cacggaac 68

<210> 93

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker peptide

<400> 93

Val Ala Val Gln Ser Ala Gly Thr Pro Ala Ser Gly Ser
 1 5 10